

Appl. No. 09/608,976

Amdt. dated December 16, 2003

Reply to Office Action of October 17, 2003

CURRENTLY PENDING CLAIMS

The listing of claims below replaces all prior versions, and listings, of claims:

1           1.       (Previously Presented) A method of presenting an execution plan for a  
2 query, comprising:

3                   determining steps of the query execution plan for a parallel database  
4 system;

5                   displaying the steps of the query execution plan in a graphical user  
6 interface; and

7                   depicting parallel execution of steps of the query execution plan in the  
8 graphical user interface,

9                   wherein depicting the parallel execution of steps comprises displaying  
10 plural elements corresponding to concurrently executing plural steps on respective  
11 processors of the parallel database system.

1           2.       (Previously Presented) The method of claim 1, wherein determining the  
2 steps comprises determining steps of the query execution plan for the parallel database  
3 system running in a multiprocessing platform having plural processors.

1           3.       (Previously Presented) The method of claim 1, wherein determining the  
2 steps comprises determining steps of the query execution plan for the parallel database  
3 system running in a platform having plural virtual processors to handle access to data in  
4 the parallel database system.

1           4.       (Previously Presented) The method of claim 1, wherein displaying the  
2 plural elements comprises displaying plural icons.

1           5.       (Previously Presented) The method of claim 4, wherein the database  
2 management system is executable in a platform, and wherein displaying the icons  
3 comprises displaying one or more of the icons selected from the group consisting of an  
4 icon representing a table, an icon representing an operation performed on a component of

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5 the platform, an icon representing a query statement, and icon representing an operation  
6 performed on two or more tables.

1 6. (Original) The method of claim 1, wherein determining the steps of the  
2 query execution plan is performed by an optimizer.

1 7. (Previously Presented) The method of claim 6, wherein determining the  
2 steps of the query execution plan is performed by the optimizer based on emulated  
3 environment data of a target system, the optimizer and emulated environment data  
4 present in a test system, the target system comprising the parallel database system.

1 8. (Previously Presented) The method of claim 1, wherein determining the  
2 steps of the query execution plan is performed in a test system based on emulated  
3 environment data of a target system that is separate from the test system, the target  
4 system comprising the parallel database system.

1 9. (Original) The method of claim 1, further comprising displaying explain  
2 text of the query execution plan.

1 10. (Original) The method of claim 9, wherein displaying the explain text  
2 comprises displaying the explain text in a first screen, and wherein displaying the steps of  
3 the query execution plan comprises displaying the steps in a second screen.

1 11. (Original) A method of testing performance of a query, comprising:  
2 determining a first execution plan of the query under a first condition;  
3 determining a second execution plan of the query under a second  
4 condition; and  
5 displaying the first and second execution plans concurrently to enable  
6 comparison of the execution plans.

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1           12.     (Original) The method of claim 11, wherein displaying the first and  
2     second execution plans comprises displaying the execution plans in a graphical user  
3     interface.

1           13.     (Original) The method of claim 11, wherein displaying the first and  
2     second execution plans comprises displaying the execution plans in a graphical user  
3     interface having a first screen to display the first execution plan and a second screen to  
4     display the second execution plan.

1           14.     (Original) The method of claim 11, wherein displaying the first and  
2     second execution plans comprises displaying a collection of icons to represent steps of  
3     each of the execution plans.

1           15.     (Original) The method of claim 11, further comprising:  
2                     determining a third execution plan of the query under a third condition;  
3     and  
4                     displaying the first, second, and third execution plans concurrently to  
5     enable comparison of the execution plans.

1           16.     (Original) The method of claim 11, wherein determining the first  
2     execution plan comprises determining an execution plan for the query in cooperation with  
3     a first version of a software module of a parallel database system.

1           17.     (Original) The method of claim 16, wherein determining the second  
2     execution plan comprises determining an execution plan for the query in cooperation with  
3     a second version of the software module of the parallel database system.

1           18.     (Original) The method of claim 11, wherein determining the first  
2     execution plan comprises determining an execution plan for the query in a system having  
3     a first arrangement.

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1           19.     (Original) The method of claim 18, wherein determining the second  
2     execution plan comprises determining an execution plan for the query in a system having  
3     a second arrangement.

1           20.     (Original) The method of claim 11, wherein determining the first  
2     execution plan comprises determining an execution plan involving a table having a first  
3     content.

1           21.     (Original) The method of claim 20, wherein determining the second  
2     execution plan comprises determining an execution plan involving the table having a  
3     second content.

1           22.     (Previously Presented) The method of claim 21, wherein the second  
2     content contains statistics.

1           23.     (Previously Presented) A system comprising:  
2                   a graphical user interface; and  
3                   a controller to determine an execution plan of a query based on emulation  
4     data that emulates an environment of a target system in which a parallel database system  
5     is implemented,  
6                   the controller to display a representation of the execution plan in the  
7     graphical user interface.

1           24.     (Original) The system of claim 23, wherein the emulation data comprises  
2     cost-related information including a number of nodes in the target system and a number  
3     of CPUs in each node.

1           25.     (Original) The system of claim 23, wherein the emulation data comprises  
2     cost-related information including a number of virtual processors running in the target  
3     system.

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1           26.   (Original) The system of claim 23, wherein the emulation data comprises  
2   cost-related information relating to costs of doing operations in the target system.

1           27.   (Original) The system of claim 23, wherein the emulation data represents a  
2   target system having a multi-node parallel processing system.

1           28.   (Cancelled)

1           29.   (Original) The system of claim 23, wherein the emulation data represents a  
2   target system running plural virtual processors for handling access to the parallel database  
3   system.

1           30.   (Previously Presented) An article comprising one or more storage media  
2   containing instructions that when executed cause a controller to:  
3               determine an execution plan of a query for a parallel database system;  
4               display the steps of the execution plan in a graphical user interface; and  
5               depict parallel execution of steps of the execution plan in the graphical  
6   user interface,  
7               wherein depicting the parallel execution of steps comprises displaying  
8   plural elements corresponding to concurrently executing plural steps on respective  
9   processors of the parallel database system.

1           31.   (Previously Presented) The article of claim 30, wherein the instructions  
2   when executed cause the controller including an optimizer to determine the execution  
3   plan of the query.

1           32.   (Previously Presented) The article of claim 30, wherein the instructions  
2   when executed cause the controller to receive environment information to emulate a  
3   target database system.

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1           33.   (Previously Presented) The article of claim 32, wherein the instructions  
2   when executed cause the controller to determine the execution plan of the query based on  
3   the environment information.

1           34.   (Previously Presented) The article of claim 30, wherein the execution plan  
2   comprises a first execution plan, wherein the instructions when executed cause the  
3   controller to further:  
4               determine a second execution plan of the query for the parallel database  
5   system;  
6               display the steps of the second execution plan concurrently with the steps  
7   of the first execution plan in the graphical user interface.

1           35.   (Previously Presented) The method of claim 1, wherein displaying the  
2   plural elements comprises displaying the plural elements side-by-side to indicate  
3   concurrent execution of the respective steps.

1           36.   (Previously Presented) The method of claim 35, further comprising  
2   displaying other elements in sequence with the plural side-by-side elements to indicate  
3   sequential execution of other steps corresponding to the other elements.

1           37.   (Previously Presented) The method of claim 11, wherein determining the  
2   first execution plan comprises determining the first execution plan in a parallel database  
3   system environment, determining the second execution plan comprises determining the  
4   second execution plan in the parallel database system environment, and displaying each  
5   of the first and second execution plans comprises displaying plural elements  
6   corresponding to concurrently executing plural steps on respective processors of the  
7   parallel database system environment.

1           38.   (Previously Presented) The method of claim 37, wherein displaying the  
2   plural elements comprises displaying the plural elements side-by-side to indicate  
3   concurrent execution of the respective steps.

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1           39.   (Previously Presented) The method of claim 38, further comprising  
2   displaying other elements in sequence with the plural side-by-side elements to indicate  
3   sequential execution of other steps corresponding to the other elements.

1           40.   (Previously Presented) The article of claim 30, wherein displaying the  
2   plural elements comprises displaying the plural elements side-by-side to indicate  
3   concurrent execution of the respective steps.

1           41.   (Previously Presented) The article of claim 40, further comprising  
2   displaying other elements in sequence with the plural side-by-side elements to indicate  
3   sequential execution of other steps corresponding to the other elements.